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## "Full" Reserve Study



### Ridge at Rock Creek Marysville, WA

**Report #: 32285-0**  
**For Period Beginning: January 1, 2018**  
**Expires: December 31, 2018**

**Date Prepared: April 4, 2017**



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**Hello, and welcome to your Reserve Study!**

**T**his Report is a valuable budget planning tool, for with it you control the future of your association. It contains all the fundamental information needed to understand your current and future Reserve obligations, the most significant expenditures your association will face.

**W**ith respect to Reserves, this Report will tell you "where you are," and "where to go from here."

In this Report, you will find...

**1) A List of What you're Reserving For**

**2) An Evaluation of your Reserve Fund Size and Strength**

**3) A Recommended Multi-Year Reserve Funding Plan**

**More Questions?**

Visit our website at [www.ReserveStudy.com](http://www.ReserveStudy.com) or call us at:

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## Table of Contents

<b>3-Minute Executive Summary</b>	<b>1</b>
Reserve Study Summary	1
Reserve Component List	2
<b>Introduction, Objectives, and Methodology</b>	<b>3</b>
Which Physical Assets are Funded by Reserves?	4
How do we establish Useful Life and Remaining Useful Life estimates?	4
How do we establish Current Repair/Replacement Cost Estimates?	4
How much Reserves are enough?	5
How much should we contribute?	6
What is our Recommended Funding Goal?	6
<b>Projected Expenses</b>	<b>8</b>
Expense Graph	8
<b>Reserve Fund Status &amp; Recommended Funding Plan</b>	<b>9</b>
Funding Plan Graph	9
Cash Flow Graph	10
% Funded Graph	10
<b>Table Descriptions</b>	<b>11</b>
Analysis Summary	12
Reserve Component List Detail	13
Fully Funded Balance	14
Accounting Tax Summary	15
30-Year Reserve Plan Summary	16
30 Year Reserve Plan Summary	16
<b>Accuracy, Limitations, and Disclosures</b>	<b>17</b>
<b>Terms and Definitions</b>	<b>18</b>
<b>Component Details</b>	<b>19</b>

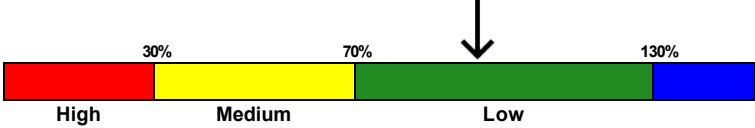
## 3- Minute Executive Summary

**Association:** Ridge at Rock Creek **Assoc. #: 32285-0**  
**Location:** Marysville, WA **# of Units:102**  
**Report Period:** January 1, 2018 through December 31, 2018

**Findings/Recommendations as-of: January 1, 2018**

Project Starting Reserve Balance .....	\$23,933
Currently Fully Funding Reserve Balance .....	\$24,862
Average Reserve Deficit (Surplus) Per Unit .....	\$9
Percent Funded .....	96.3 %
Recommended 2018 "Monthly Fully Funding Contributions" .....	\$650
2018 "70% Threshold Funding Contributions" .....	\$620
Baseline contributions to keep Reserves above \$0 .....	\$585
2017 Reserve Contribution Rate .....	\$389

**Reserves % Funded: 96.3%**



**Special Assessment Risk:**

**Economic Assumptions:**

**Net Annual "After Tax" Interest Earnings Accruing to Reserves .....** 1.00 %  
**Annual Inflation Rate .....** 3.00 %

- This is a "Full" Reserve Study, meeting or exceeding all requirements of the RCW. This study was prepared by, or under the supervision of a credentialed Reserve Specialist (RS™).
- Your Reserve Fund is currently 96.3 % Funded. This means the association’s special assessment & deferred maintenance risk is currently Low. The objective of your multi-year Funding Plan is to fund your Reserves to a level where you will enjoy a low risk of such Reserve cash flow problems.
- Based on this starting point and your anticipated future expenses, our recommendation is to increase budgeted Reserve Contributions to within the 70% to 100% range as noted above. The 100% “Full” and 70% contribution rates are designed to gradually achieve these funding objectives by the end of our 30-year report scope.
- No assets appropriate for Reserve designation known to be excluded. See appendix for component information and the basis of our assumptions.

#	Component	Useful Life (yrs)	Rem. Useful Life (yrs)	Current Average Cost
Site & Grounds				
120	Asphalt - Repave	30	17	\$6,300
121	Asphalt - Seal Coat & Repair	5	0	\$1,100
164	Landscape Lights - Replace	15	2	\$3,000
170	Landscape - Refurbish	4	2	\$4,000
182	Drainage, Stormwater System	3	2	\$14,000
200	Entry Signage - Replace	20	7	\$6,500
205	Mailboxes - Replace	20	7	\$11,600
<b>7 Total Funded Components</b>				

Note 1: Yellow highlighted line items are expected to require attention in this initial year, green highlighted items are expected to occur within the first-five years.

## Introduction



A Reserve Study is the art and science of anticipating, and preparing for, an association's major common area repair and replacement expenses. Partially art, because in this field we are making projections about the future. Partially science, because our work is a combination of research and well-defined computations, following consistent National Reserve Study Standard principles.

The foundation of this and every Reserve Study is your Reserve Component List (what you are reserving for). This is because the Reserve Component List defines the *scope and schedule* of all your anticipated upcoming Reserve projects. Based on that List and your starting balance, we calculate the association's Reserve Fund Strength (reported in terms of "Percent Funded"). Then we compute a Reserve Funding Plan to provide for the Reserve needs of the association. These form the three results of your Reserve Study.



Reserve contributions are not “for the future”. Reserve contributions are designed to offset the ongoing, daily deterioration of your Reserve assets. Done well, a stable, budgeted Reserve Funding Plan will collect sufficient funds from the owners who enjoyed the use of those assets, so the association is financially prepared for the irregular expenditures scattered through future years when those projects eventually require replacement.

## Methodology



For this [Full Reserve Study](#), we started with a review of your Governing Documents, recent Reserve expenditures, an evaluation of how expenditures are handled (ongoing maintenance vs Reserves), and research into any well-established association precedents. We

performed an on-site inspection to quantify and evaluate your common areas, creating your Reserve Component List *from scratch*.

## *Which Physical Assets are Funded by Reserves?*

There is a national-standard four-part test to determine which expenses should appear in your Reserve Component List. First, it must be a common area maintenance responsibility. Second, the component must have a limited life. Third, the remaining life must be predictable (or it by definition is a *surprise* which cannot be accurately anticipated). Fourth, the component must be above a minimum threshold cost (often between .5% and 1% of an association's total budget). This limits Reserve



RESERVE COMPONENT "FOUR-PART TEST"

Components to major, predictable expenses. Within this framework, it is inappropriate to include *lifetime* components, unpredictable expenses (such as damage due to fire, flood, or earthquake), and expenses more appropriately handled from the Operational Budget or as an insured loss.

## *How do we establish Useful Life and Remaining Useful Life estimates?*

- 1) Visual Inspection (observed wear and age)
- 2) Association Reserves database of experience
- 3) Client History (install dates & previous life cycle information)
- 4) Vendor Evaluation and Recommendation

## *How do we establish Current Repair/Replacement Cost Estimates?*

In this order...

- 1) Actual client cost history, or current proposals
- 2) Comparison to Association Reserves database of work done at similar associations
- 3) Vendor Recommendations
- 4) Reliable National Industry cost estimating guidebooks

## How much Reserves are enough?

Reserve adequacy is not measured in cash terms. Reserve adequacy is found when the *amount* of current Reserve cash is compared to Reserve component deterioration (the *needs of the association*). Having *enough* means the association can execute its projects in a timely manner with existing Reserve funds. Not having *enough* typically creates deferred maintenance or special assessments.

Adequacy is measured in a two-step process:

- 1) Calculate the *value of deterioration* at the association (called Fully Funded Balance, or FFB).
- 2) Compare that to the Reserve Fund Balance, and express as a percentage.



Each year, the *value of deterioration* at the association changes. When there is more deterioration (as components approach the time they need to be replaced), there should be more cash to offset that deterioration and prepare for the expenditure. Conversely, the *value of deterioration* shrinks after projects are accomplished. The *value of deterioration* (the FFB) changes each year, and is a moving but predictable target.

There is a high risk of special assessments and deferred maintenance when the Percent Funded is *weak*, below 30%. Approximately 30% of all associations are in this high risk range. While the 100% point is Ideal (indicating Reserve cash is equal to the *value of deterioration*), a Reserve Fund in the 70% - 130% range is considered strong (low risk of special assessment).

Measuring your Reserves by Percent Funded tells how well prepared your association is for upcoming Reserve expenses. New buyers should be very aware of this important disclosure!



## How much should we contribute?



RESERVE FUNDING PRINCIPLES

According to National Reserve Study Standards, there are four Funding Principles to balance in developing your Reserve Funding Plan. Our first objective is to design a plan that provides you with sufficient cash to perform your Reserve projects on time. Second, a stable contribution is desirable because it keeps these naturally irregular expenses from unsettling the budget.

Reserve contributions that are evenly distributed over current and future owners enable each owner to pay their fair share of the association's Reserve expenses over the years. And finally, we develop a plan that is fiscally responsible and safe for Boardmembers to recommend to their association. Remember, it is the Board's job to provide for the ongoing care of the common areas. Boardmembers invite liability exposure when Reserve contributions are inadequate to offset ongoing common area deterioration.

## What is our Recommended Funding Goal?

Maintaining the Reserve Fund at a level equal to the *value* of deterioration is called "Full Funding" (100% Funded). As each asset ages and becomes "used up," the Reserve Fund grows proportionally. **This is simple, responsible, and our recommendation.** Evidence shows that associations in the 70 - 130% range *enjoy a low risk of special assessments or deferred maintenance.*



FUNDING OBJECTIVES

Allowing the Reserves to fall close to zero, but not below zero, is called Baseline Funding. Doing so allows the Reserve Fund to drop into the 0 - 30% range, where there is a high risk of special assessments & deferred maintenance. Since Baseline Funding still provides for the timely execution of all Reserve projects, and only the "margin of safety" is different, Baseline Funding contributions average only 10% - 15% less than Full Funding contributions. Threshold Funding is the title of all other Cash or Percent Funded objectives *between* Baseline Funding and Full Funding.

## **Site Inspection Notes**

During our site visit on 3/14/2017, we started with a brief meeting with Association Manager Della Clement, then started the site inspection beginning with the site and grounds. We visually inspected all visible common area while compiling a photographic inventory, noting: current condition, make & model information where appropriate, apparent levels of care and maintenance, exposure to weather elements and other factors that may affect the components useful life.

## Projected Expenses

While this Reserve Study looks forward 30 years, we have no expectation that all these expenses will all take place as anticipated. This Reserve Study needs to be updated annually because we expect the timing of these expenses to shift and the size of these expenses to change. We do feel more certain of the timing and cost of near-term expenses than expenses many years away.

The figure below summarizes the projected future expenses at your association as defined by your Reserve Component List. A summary of these expenses are shown in the 30-yr Summary Table, while details of the projects that make up these expenses are shown in the Cash Flow Detail Table.

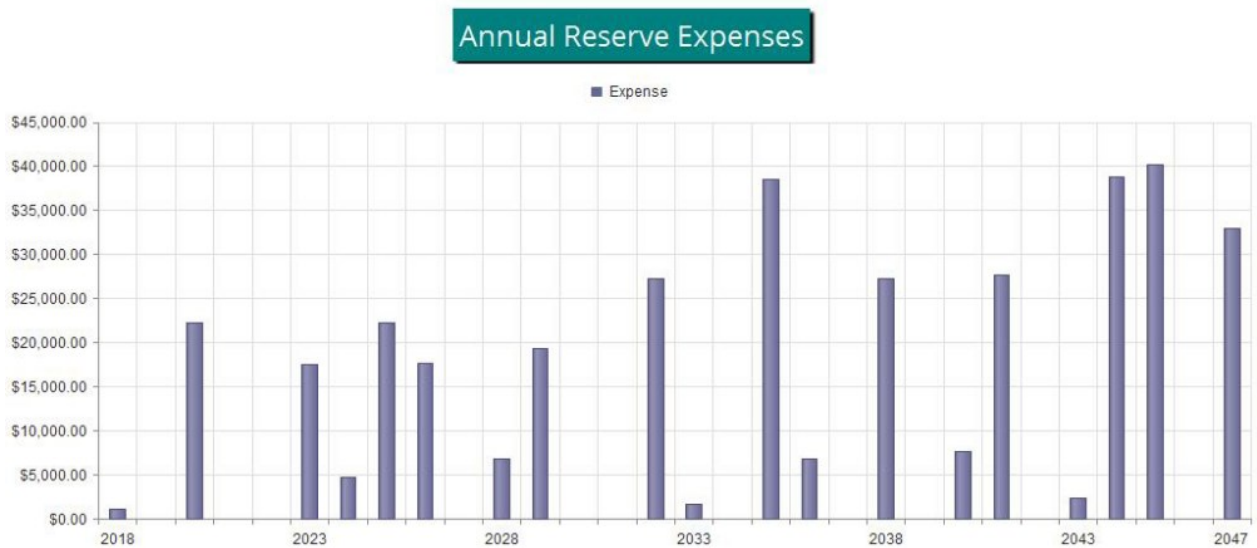


Figure 1

## Reserve Fund Status

The starting point for our financial analysis is your Reserve Fund balance, projected to be \$23,933 as-of the start of your Fiscal Year on 1/1/2018. As of that date , your Fully Funded Balance is computed to be \$24,862 (see Fully Funded Balance Table). This figure represents the deteriorated value of your common area components.

## Recommended Funding Plan

Based on your current Percent Funded and your near-term and long-term Reserve needs, we are recommending budgeted contributions of \$650 per month this Fiscal Year. The overall 30-yr plan, in perspective, is shown below. This same information is shown numerically in both the 30-yr Summary Table and the Cash Flow Detail Table.

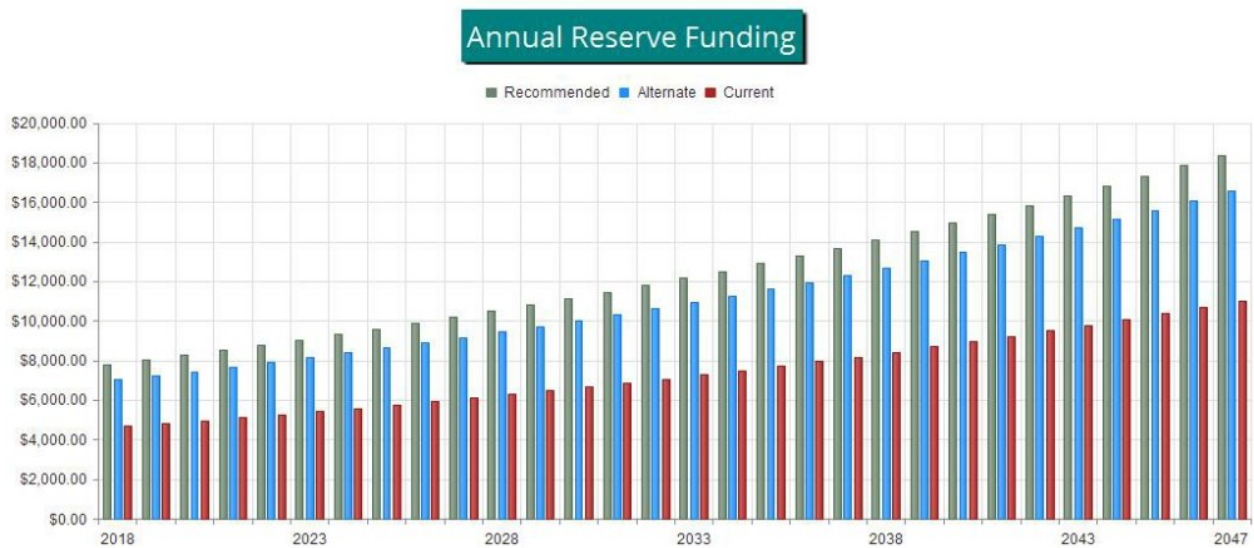


Figure 2

The following chart shows your Reserve balance under our recommended Full Funding Plan, an alternate Baseline Funding Plan, and at your current budgeted contribution rate (assumes future increases), compared to your always-changing Fully Funded Balance target.

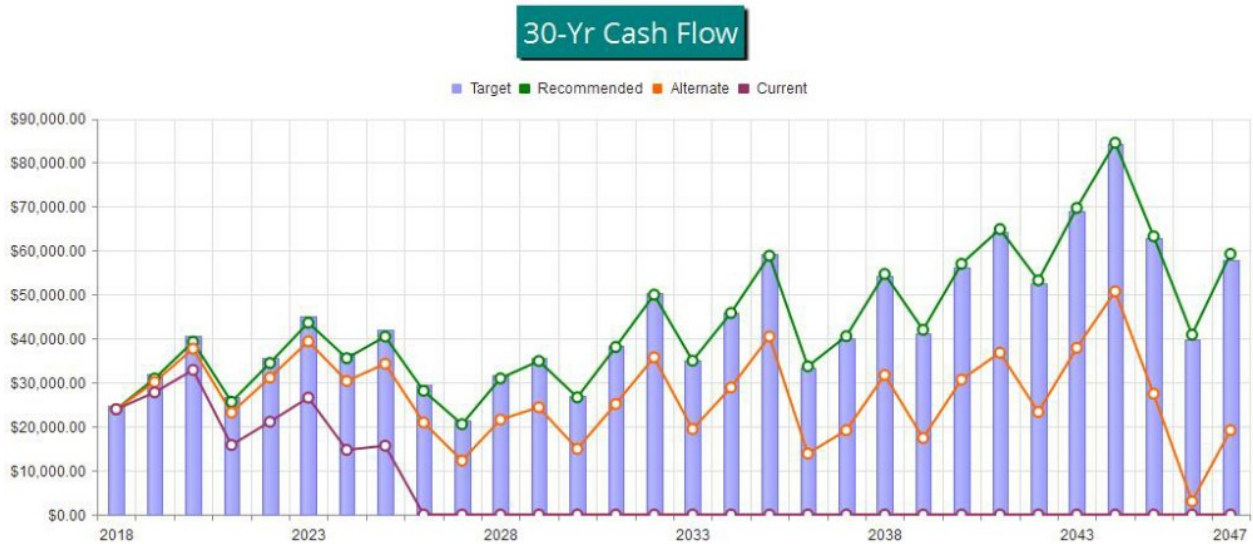


Figure 3

This figure shows the same information plotted on a Percent Funded scale. It is clear here to see how your Reserve Fund strength approaches the 100% Funded level under our recommended multi-yr Funding Plan.



Figure 4

## **Table Descriptions**

The tabular information in this Report is broken down into nine tables, not all which may have been chosen by your Project Manager to appear in your report. Tables are listed in the order in which they appear in your Report.

Executive Summary is a summary of your Reserve Components

Budget Summary is a management and accounting tool, summarizing groupings of your Reserve Components.

Analysis Summary provides a summary of the starting financial information and your Project Manager's Financial Analysis decision points.

Component List Detail discloses key Component information, providing the foundation upon which the financial analysis is performed.

Fully Funded Balance shows the calculation of the Fully Funded Balance for each of your components, and their contributions to the association total. For each component, the Fully Funded Balance is the fraction of life used up multiplied by its estimated Current Replacement Cost.

Component Significance shows the relative significance of each component to Reserve funding needs of the association, helping you see which components have more (or less) influence than others on your total Reserve contribution rate. The deterioration cost/yr of each component is calculated by dividing the estimated Current Replacement Cost by its Useful Life, then that component's percentage of the total is displayed.

Acct/Tax Summary provides information on each Component's proportionate portion of key totals, valuable to accounting professionals primarily during tax preparation time of year.

30-Yr Summary provides a one-page 30-year summary of the cash flowing into and out of the Reserve Fund, with a display of the Fully Funded Balance, Percent Funded, and special assessment risk at the beginning of each year.

Cash Flow Detail shows the detailed income and expenses for each of the next 30 years. This table makes it possible to see which components are projected to require repair or replacement in a particular year, and the size of those individual expenses.

**Starting Information:**

# Units:	102		
Base Year:	2018		
Period Start:	01/01/2018		
Period End:	12/31/2018		
Site Inspection Date:	03/14/2017		
Total Assessments:	\$3,018	Per Unit	\$29.58
Budgeted Res Contrib:	\$389	Per Unit	\$3.82
Starting Reserve Bal:	\$23,933		
Interest:	1.00 %		
Inflation:	3.00 %		

**Status:**

Proportional FFB:	\$24,862
Percent Funded:	96.3 %
Swain Factor:	1.187 %

**Recommendation:**

<u>Recommended</u> Contribution Rate:	\$650	Per Unit	\$6.37
<u>Alternate</u> Contribution Rate:	\$585	Per Unit	\$5.74
Annual Increase:	3.00 %		
# of Years:	30		
Secondary Annual Increase:	2.50 %		
# of Years:	30		
1st Yr S.A.:	\$0	Per Unit	\$0.00
2nd Yr S.A.:	\$0	Per Unit	\$0.00
3rd Yr S.A.:	\$0	Per Unit	\$0.00
4th Yr S.A.:	\$0	Per Unit	\$0.00
5th Yr S.A.:	\$0	Per Unit	\$0.00
Minimum Balance (Full):	\$20,518.68		
Min Margin (Full):	87.50 %		
Minimum Balance (Alt):	\$2,813.71		
Min Margin (Alt):	7.41 %		

**System Defaults:**

Current Annual Increase:	3.00 %
Budget Cycles Per Year:	12

# Component	Quantity	Useful Life	Rem. Useful Life	Current Cost Estimate	
				Best Case	Worst Case
Site & Grounds					
120 Asphalt - Repave	~ 2800 square feet	30	17	\$5,600	\$7,000
121 Asphalt - Seal Coat & Repair	~ 2,800 square feet	5	0	\$1,000	\$1,200
164 Landscape Lights - Replace	Moderate amount	15	2	\$2,500	\$3,500
170 Landscape - Refurbish	Beds, turf, plantings	4	2	\$3,000	\$5,000
182 Drainage, Stormwater System	Basins, conveyance,	3	2	\$12,000	\$16,000
200 Entry Signage - Replace	(1) Concrete/stone	20	7	\$5,000	\$8,000
205 Mailboxes - Replace	(8) clusters	20	7	\$10,400	\$12,800
7 Total Funded Components					



#	Component	Current Cost Estimate	X	Effective Age	/	Useful Life	=	Fully Funded Balance
Site & Grounds								
120	Asphalt - Repave	\$6,300	X	13	/	30	=	\$2,730
121	Asphalt - Seal Coat & Repair	\$1,100	X	5	/	5	=	\$1,100
164	Landscape Lights - Replace	\$3,000	X	13	/	15	=	\$2,600
170	Landscape - Refurbish	\$4,000	X	2	/	4	=	\$2,000
182	Drainage, Stormwater System	\$14,000	X	1	/	3	=	\$4,667
200	Entry Signage - Replace	\$6,500	X	13	/	20	=	\$4,225
205	Mailboxes - Replace	\$11,600	X	13	/	20	=	\$7,540
								\$24,862

#	Component	UL	RUL	Current Cost Estimate	Fully Funded Balance	Current Fund Balance	Proportional Reserve Contribs
Site & Grounds							
120	Asphalt - Repave	30	17	\$6,300	\$2,730	\$1,801	\$19
121	Asphalt - Seal Coat & Repair	5	0	\$1,100	\$1,100	\$1,100	\$20
164	Landscape Lights - Replace	15	2	\$3,000	\$2,600	\$2,600	\$18
170	Landscape - Refurbish	4	2	\$4,000	\$2,000	\$2,000	\$90
182	Drainage, Stormwater System	3	2	\$14,000	\$4,667	\$4,667	\$421
200	Entry Signage - Replace	20	7	\$6,500	\$4,225	\$4,225	\$29
205	Mailboxes - Replace	20	7	\$11,600	\$7,540	\$7,540	\$52
7 Total Funded Components					\$24,862	\$23,933	\$650

# 30-Year Reserve Plan Summary

32285-0  
Full

Fiscal Year Start: 2018

Interest: 1.00 %

Inflation: 3.00 %

Reserve Fund Strength Calculations: (All values of Fiscal Year Start Date)

Projected Reserve Balance Changes

Year	Starting Reserve Balance	Fully Funded Balance	Percent Funded	Special Assmt Risk	Reserve Contribs.	Loan or Special Assmts	Interest Income	Reserve Expenses
2018	\$23,933	\$24,862	96.3 %	Low	\$7,800	\$0	\$274	\$1,100
2019	\$30,907	\$31,892	96.9 %	Low	\$8,034	\$0	\$351	\$0
2020	\$39,292	\$40,489	97.0 %	Low	\$8,275	\$0	\$324	\$22,279
2021	\$25,612	\$26,626	96.2 %	Low	\$8,523	\$0	\$300	\$0
2022	\$34,435	\$35,530	96.9 %	Low	\$8,779	\$0	\$390	\$0
2023	\$43,604	\$44,945	97.0 %	Low	\$9,042	\$0	\$396	\$17,505
2024	\$35,537	\$36,862	96.4 %	Low	\$9,314	\$0	\$380	\$4,776
2025	\$40,454	\$41,906	96.5 %	Low	\$9,593	\$0	\$343	\$22,261
2026	\$28,130	\$29,357	95.8 %	Low	\$9,881	\$0	\$243	\$17,735
2027	\$20,519	\$21,368	96.0 %	Low	\$10,177	\$0	\$257	\$0
2028	\$30,953	\$31,687	97.7 %	Low	\$10,483	\$0	\$329	\$6,854
2029	\$34,911	\$35,547	98.2 %	Low	\$10,797	\$0	\$308	\$19,379
2030	\$26,636	\$26,921	98.9 %	Low	\$11,121	\$0	\$323	\$0
2031	\$38,081	\$38,304	99.4 %	Low	\$11,455	\$0	\$440	\$0
2032	\$49,975	\$50,347	99.3 %	Low	\$11,798	\$0	\$425	\$27,227
2033	\$34,971	\$35,033	99.8 %	Low	\$12,152	\$0	\$404	\$1,714
2034	\$45,814	\$45,876	99.9 %	Low	\$12,517	\$0	\$523	\$0
2035	\$58,853	\$59,155	99.5 %	Low	\$12,892	\$0	\$463	\$38,511
2036	\$33,697	\$33,524	100.5 %	Low	\$13,279	\$0	\$371	\$6,810
2037	\$40,537	\$40,144	101.0 %	Low	\$13,677	\$0	\$476	\$0
2038	\$54,690	\$54,355	100.6 %	Low	\$14,088	\$0	\$483	\$27,272
2039	\$41,989	\$41,292	101.7 %	Low	\$14,510	\$0	\$495	\$0
2040	\$56,994	\$56,330	101.2 %	Low	\$14,946	\$0	\$609	\$7,664
2041	\$64,884	\$64,339	100.8 %	Low	\$15,394	\$0	\$590	\$27,630
2042	\$53,238	\$52,449	101.5 %	Low	\$15,856	\$0	\$614	\$0
2043	\$69,709	\$69,102	100.9 %	Low	\$16,331	\$0	\$771	\$2,303
2044	\$84,508	\$84,334	100.2 %	Low	\$16,821	\$0	\$738	\$38,819
2045	\$63,249	\$62,877	100.6 %	Low	\$17,326	\$0	\$520	\$40,205
2046	\$40,890	\$39,829	102.7 %	Low	\$17,846	\$0	\$500	\$0
2047	\$59,236	\$57,995	102.1 %	Low	\$18,381	\$0	\$522	\$32,992

## Accuracy, Limitations, and Disclosures

Washington disclosure, per RCW:

"The reserve study should be reviewed carefully. It may not include all common and limited common element components that will require major maintenance, repair or replacement in future years, and may not include regular contributions to a reserve account for the cost of such maintenance, repair, or replacement. The failure to include a component in a reserve study, or to provide contributions to a reserve account for a component, may, under some circumstances, require you to pay on demand as a special assessment your share of common expenses for the cost of major maintenance, repair or replacement of a reserve component."

Because we have no control over future events, we do not expect that all the events we anticipate will occur as planned. We expect that inflationary trends will continue, and we expect Reserve funds to continue to earn interest, so we believe that reasonable estimates for these figures are much more accurate than ignoring these economic realities. We can control measurements, which we attempt to establish within 5% accuracy through a combination of on-site measurements, drawings, and satellite imagery. The starting Reserve Balance and interest rate earned on deposited Reserve funds that you provided to us were considered reliable and were not confirmed independently. We have considered the association's representation of current and historical Reserve projects reliable, and we have considered the representations made by its vendors and suppliers to also be accurate and reliable. Component Useful Life, Remaining Useful Life, and Current Cost estimates assume a stable economic environment and lack of natural disasters.

Because the physical condition of your components, the association's Reserve balance, the economic environment, and legislative environment change each year, this Reserve Study is by nature a "one-year" document. Because a long-term perspective improves the accuracy of near-term planning, this Report projects expenses for the next 30 years. It is our recommendation and that of the Financial Accounting Standards Board (FASB) that your Reserve Study be updated each year as part of the annual budget process.

Association Reserves WA, LLC and its employees have no ownership, management, or other business relationships with the client other than this Reserve Study engagement. James D. Talaga R.S., company president, is a credentialed Reserve Specialist (#66). All work done by Association Reserves WA, LLC is performed under his Responsible Charge. There are no material issues to our knowledge that have not been disclosed to the client that would cause a distortion of the association's situation

## Terms and Definitions

<b>BTU</b>	British Thermal Unit (a standard unit of energy)
<b>DIA</b>	Diameter
<b>GSF</b>	Gross Square Feet (area). Equivalent to Square Feet
<b>GSY</b>	Gross Square Yards (area). Equivalent to Square Yards
<b>HP</b>	Horsepower
<b>LF</b>	Linear Feet (length)
<b>Effective Age</b>	The difference between Useful Life and Remaining Useful Life. Note that this is not necessarily equivalent to the chronological age of the component.
<b>Fully Funded Balance (FFB)</b>	The value of the deterioration of the Reserve Components. This is the fraction of life "used up" of each component multiplied by its estimated Current Replacement. While calculated for each component, it is summed together for an association total.
<b>Inflation</b>	Cost factors are adjusted for inflation at the rate defined in the Executive Summary and compounded annually. These increasing costs can be seen as you follow the recurring cycles of a component on the "30-yr Income/Expense Detail" table.
<b>Interest</b>	Interest earnings on Reserve Funds are calculated using the average balance for the year (taking into account income and expenses through the year) and compounded monthly using the rate defined in the Executive Summary. Annual interest earning assumption appears in the Executive Summary.
<b>Percent Funded</b>	The ratio, at a particular point in time (the first day of the Fiscal Year), of the actual (or projected) Reserve Balance to the Fully Funded Balance, expressed as a percentage.
<b>Remaining Useful Life (RUL)</b>	The estimated time, in years, that a common area component can be expected to continue to serve its intended function.
<b>Useful Life (UL)</b>	The estimated time, in years, that a common area component can be expected to serve its intended function.

## Component Details

The primary purpose of the Component Details appendix is to provide the reader with the basis of our funding assumptions resulting from our research and analysis. The information presented here represents a wide range of components that were observed and measured against National Reserve Study Standards to determine if they meet the criteria for reserve funding.

- 1) Common area repair & replacement responsibility
- 2) Component must have a limited useful life
- 3) Life limit must be predictable
- 4) Above a minimum threshold cost (board's discretion – typically ½ to 1% of Annual operating expenses).

Not all your components may have been found appropriate for reserve funding. In our judgment, the components meeting the above four criteria are shown with the Useful Life (how often the project is expected to occur), Remaining Useful Life (when the next instance of the expense will be) and representative market cost range termed “Best Cost” and “Worst Cost”. There are many factors that can result in a wide variety of potential costs, and we have attempted to present the cost range in which your actual expense will occur.

Where no Useful Life, Remaining Useful Life, or pricing exists, the component was deemed inappropriate for Reserve Funding.

## Site & Grounds

**Comp #: 100 Concrete - Repair/Replace**

**Quantity: Extensive Sq Ft**

Location: Walkways/Curbs

Funded?: No. Adjacent to streets and homes

History: none reported

Evaluation: Concrete appeared in fair condition with only minimal cracking noted at this time.

City of Marysville Municipal Code states the following: "Whenever any street, lane, square, place or alley in the city of Marysville, shall have been improved by the construction of a sidewalk or sidewalks along either or both sides thereof, the duty, burden and expense of maintenance, repairs and renewal of such sidewalk or sidewalks shall devolve upon the property directly abutting upon the side of such street or other public place along which such sidewalk has been constructed as herein provided."

Annual repair needs below the reserve funding threshold (1% or more of total annual expenses) should be factored in the operating budget. In our experience, larger repair/replacement expenses may emerge as the community ages that cannot be comfortably absorbed in the operating budget. Currently, it is difficult to predict timing, scope and costs of larger repairs. Monitor concrete annually and if conditions deteriorate leading to larger repair needs, funding can be included within a reserve study update.

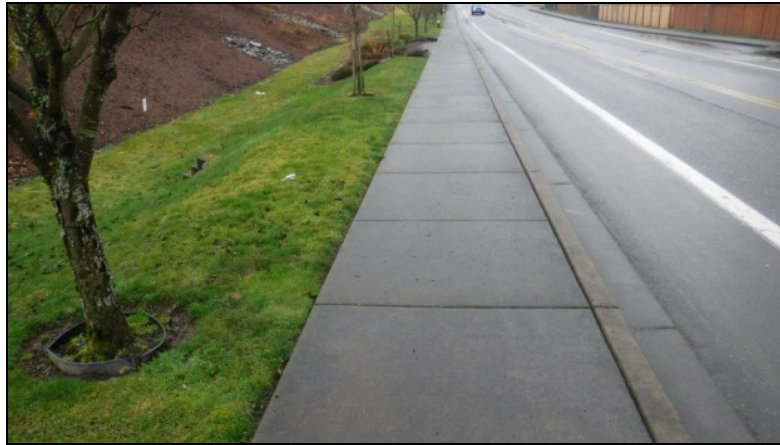
As routine maintenance, inspect regularly and pressure wash for appearance. Repair any trip hazards (1/2" difference in height) immediately to ensure safety. Repair promptly as needed to prevent water penetrating into the base, which can cause further damage. Factors affecting the quality, service life of the concrete include; the preparation of the underlying soil and drainage, thickness and strength of concrete used, steel reinforcement (none likely), and amount and weight of vehicle traffic, if any and tree roots nearby.

Resource:

<http://www.mrsc.org/subjects/pubworks/sidew.aspx>

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

**Comp #: 120 Asphalt - Repave**

**Quantity: ~ 2800 square feet**

Location: Drive lane at lots 37 - 41

Funded?: Yes.

History:

Evaluation: This area is a "private drive" and as such is likely not dedicated to the City of Marysville as are other roadways within the community. Generally good condition, with no widespread problems (cracking, excessive wear, alligator cracking) observed during our limited visual review. Note further observations concerning asphalt conditions, etc.

Useful life below assumes regular seal coating and repairs (see component #121). The lack of seal coating and repairs can greatly decrease the asphalt's useful life. Resurfacing is typically one of the larger expense items in a reserve study. When need to resurface is apparent within a couple of years, consult with geotechnical engineer for recommendations, specifications / scope of work and project oversight.

As routine maintenance, keep surfaces clean and free of debris, ensure that drains are free flowing, repair cracks, and clean oil stains promptly. Assuming proactive maintenance, plan to resurface at roughly the time frame below.

Resources:

Pavement Surface Condition Field Rating Manual for Asphalt Pavement.

<http://www.wsdot.wa.gov/NR/rdonlyres/4FE2F96D-BFE0-4484-812E-DD5164EB34F5/0/AsphaltPavementBook.pdf>

Washington Asphalt Pavement Association

<http://www.asphaltwa.com/>

Useful Life:  
30 years

Remaining Life:  
17 years



Best Case: \$ 5,600

Worst Case: \$ 7,000

Lower Allowance

Higher Allowance

Cost Source: ARI Cost Database: Similar Project Cost History



**Comp #: 121 Asphalt - Seal Coat & Repair**

**Quantity: ~ 2,800 square feet**

Location: Drive lane at lots 37 - 41

Funded?: Yes.

History: none reported

Evaluation: Generally, the surface condition of the asphalt coating appeared to be in fair condition but no evidence of prior sealcoating.

Regular cycles of seal coating, along with needed repairs is a best practice for the long term care of lower traffic asphalt areas to extend the useful life.

The State of Washington Department of Transportation (WSDOT) recommends regular cycles of seal coating for the long-term care of asphalt paving with low traffic and low speed. The primary reason to seal coat asphalt pavement is to protect the pavement from the deteriorating effects of sun and water. When asphalt pavement is exposed, the asphalt oxidizes or hardens and this causes the pavement to become increasingly brittle. As a result, the pavement will become more likely to crack, as it is unable to bend and flex when subjected to traffic (weight) and temperature changes (thermal expansion and contraction). A seal coat combats this situation by providing a waterproof membrane, which not only slows down the oxidation process, but also helps the pavement shed water. Seal coating also provides uniform appearance and conceals the inevitable patching and repairs which accumulate over time, ultimately extending the useful life of asphalt before more costly resurfacing is needed (see component #120).

Repairing asphalt before seal coating is imperative. Thorough surface preparation and dry weather during and following application, is key to lasting performance. The ideal conditions are when the air and surface temperatures are 50 degrees and rising, with low humidity and calm wind. Seal coating should never be done when showers are threatening. Incorporate any striping and curb repair into this project. Fill cracks with hot rubberized crack fill and clean oil stains promptly in between cycles as routine maintenance.

Resources:

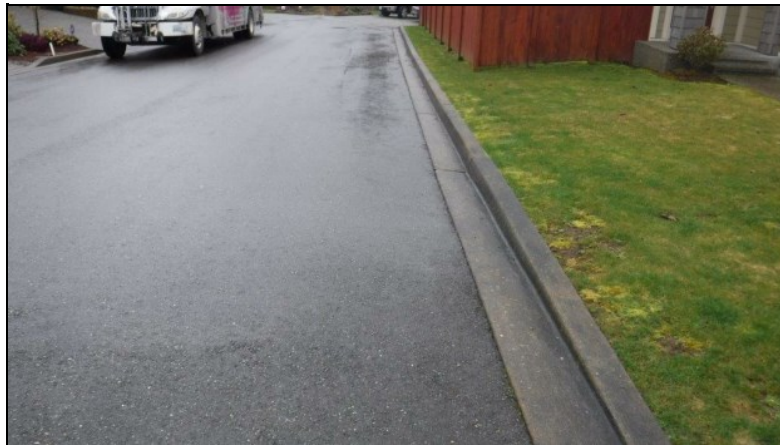
Best Practices Handbook on Asphalt Pavement Maintenance  
<http://www.cee.mtu.edu/~balkire/CE5403/AsphaltPaveMaint.pdf>

For a general overview of Asphalt Seal Coat Treatments review this publication:  
<http://www.wsdot.wa.gov/NR/rdonlyres/4A21ECE8-114B-434D-B967-0927541CE042/0/AsphaltSealCoats.pdf>

Other references:  
<http://www.pavementinteractive.org/article/bituminous-surface-treatments/>

Useful Life:  
5 years

Remaining Life:  
0 years



Best Case: \$ 1,000

Worst Case: \$ 1,200

Lower Allowance

Higher Allowance

Cost Source: ARI Cost Database: Similar Project Cost History

**Comp #: 157 Retention Walls - Repair/Replace**

**Quantity: Extensive amount**

Location: Multiple locations

Funded?: No. Useful life not predictable

History:

Evaluation: Retaining walls at Rock Creek Association are a combination of stacked blocks, rockeries, and anchored panel types. Our limited observation revealed no indication of walls being extremely out of plumb, excess erosion or other obvious issues.

Thorough analysis of a retaining wall is beyond the scope of a reserve study. If problems, including shifting, leaning, or cracking are observed or suspected, consult with an engineer (structural, civil, and/or geo-technical) for evaluation and repair recommendations. No reported problems at this time.

At this time, no large-scale repairs or replacements are predictable. Funding can be added to future reserve studies if conditions dictate.

No information was provided to us concerning how the retaining wall was designed or constructed. Observation of drainage was not possible. Proper drainage on the uphill side prevents a backlog of water (water, if present, can add substantial weight and pressure to the wall). A backlog of water, if left unchecked, could damage or break the wall. Interior of drainage lines (or pipes) can be viewed by video using a remote miniature camera. Clean out the drain lines as often as needed to prevent decreased drainage. See component # 182 Drainage/Stormwater Sys for additional information. Utilize mobile evacuator service if needed. Inspect regularly and repair as needed using operating budget.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

**Comp #: 164 Landscape Lights - Replace**

**Quantity: Moderate amount**

Location: Entry sign and large landscaped area at entrance

Funded?: Yes.

History: none reported

Evaluation: Fair condition noted with no significant damage/deterioration observed or reported to us. Observed during daylight hours; assumed to be in functional operating condition.

Best to plan for eventual large scale replacement at roughly the time frame below. Lighting is most efficiently replaced as a grouping to maintain consistent appearance and quality, and for cost efficiency, as multiple trip charges for electrician erase any savings by replacing sporadically. Check with local utility before replacing any group of lights, as energy savings rebate programs may be available.

As routine maintenance, inspect, repair/change bulbs as needed. Some local replacement may be needed from time to time; use general maintenance & repair funds.

Useful Life:  
15 years

Remaining Life:  
2 years



Best Case: \$ 2,500

Worst Case: \$ 3,500

Lower Allowance

Higher Allowance

Cost Source: ARI Cost Database: Similar Project Cost History

**Comp #: 170 Landscape - Refurbish**

**Quantity: Beds, turf, plantings**

Location: Common areas

Funded?: Yes.

History:

Evaluation: Common area landscape is in generally mature, healthy condition. Currently, landscaping maintenance is funded out of the operating budget.

Many Associations find the need or desire for larger scale refurbish projects not covered within the maintenance contract. These types of projects can include large-scale bark or mulch replacements, bed renovations, major replanting, turf renovations, drainage improvements, etc...

Walk area each year with landscape contractor and perhaps landscape architect to assess the overall health, function and future needs of maintenance and refurbish to determine any adjustments that should be made to supplemental reserve funding noted below.

Useful Life:  
4 years

Remaining Life:  
2 years



Best Case: \$ 3,000

Worst Case: \$ 5,000

Lower Allowance

Higher Allowance

Cost Source: ARI Cost Database: Similar Project Cost History

**Comp #: 175 Irrigation System - Repair/Replace**

**Quantity: Lines, heads, valves, etc**

Location:

Funded?: No. Large scale work is not predictable at this time

History:

Evaluation: Our visual observation of the irrigation system was limited as the majority of system components are below grade. No reports of repairs or problems.

No predictable large-scale costs at this time. Have your landscaper or irrigation specialist periodically unearth sections to check lines for any damage or deterioration. PVC can eventually become brittle and leak (typically not before the 40 year mark of life).

As routine maintenance, inspect, test, and repair system as needed from operating budget. Follow proper winterization and spring startup procedures. If properly installed and bedded without defect, the lines could last for many years. Controls for the system can vary greatly in number, cost, and life expectancy - typically each controller is less than \$500. Other elements (i.e. sprinkler heads, valves) within this system are generally lower cost and have a failure rate that is difficult to predict. These elements are better suited to be handled through the maintenance and operating budget, not reserves.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

**Comp #: 182 Drainage, Stormwater System**

**Quantity: Basins, conveyance,**

Location:

Funded?: Yes.

History:

Evaluation: Association currently expects major drainage maintenance expenses every three years. Observations were very limited to catch basin areas. No problems were reported to us. Annual professional inspections should be funded out of the Operating budget. Analysis of the drainage system is beyond the scope of a reserve study as the vast majority of the drainage systems are located below ground, hidden

The plat map for the Ridge at Rock Creek has the following note (page 2) under "Drainage Facilities Maintenance Covenant". We assume these annual costs will be handled from the General Maintenance budget: "Grantor, in consideration of the approval of this subdivision, hereby covenants to perform regular maintenance upon the drainage facilities installed, or to be installed, upon Grantor's property. Regular maintenance shall include, at a minimum, annual inspection of the stormwater drainage system. As applicable, the system shall include the stormwater conveyance system pipes, ditches, swales, and catch basins; stormwater flow regulation system "detention ponds, vaults, pipes, retention ponds, flow regulation and control structures; infiltration systems, and water-quality control system."

Useful Life:  
3 years

Remaining Life:  
2 years



Best Case: \$ 12,000

Worst Case: \$ 16,000

Lower Allowance

Higher Allowance

Cost Source: Estimate Provided by Client

**Comp #: 188 Open Space/NGPA - Maintain**

**Quantity: ~ 85,850 Sq Ft**

Location: Tracts 994, 995, 996, east perimeter

Funded?: No. Costs not predictable

History: none reported

Evaluation: Open space and native growth protection areas (tracts 994-996) are the maintenance responsibility of the Association and are subject to inspection by the City of Marysville. Tracts are to be left undisturbed.

Plat map notes for the Ridge at Rock Creek states the following under "Restrictions and Covenants:" (page 2, #6)

"The Homeowner's Association shall monitor the health of the trees (in the Native Growth Protection Area - Lot 995) over time for deteriorating tree conditions that could cause tree failure."

Note: If large trees do appear hazardous an arborist must typically certify, and the the City of Marysville must approve prior to removal, or large fines could result.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

**Comp #: 190 Trees - Trim, Replace**

**Quantity: Numerous, adolescent**

Location: Common areas

Funded?: No. No predictable basis at this time

History: none reported

Evaluation: This component applies only to trees planted in common areas. Declaration section 5.4 makes trees in parking strips adjacent to homes the responsibility of the adjoining homeowners. No specific problems observed or reported at this time. Trees are generally mature throughout community.

This component may be utilized for larger tree removal/trimming projects which do not occur on an annual basis. If the community has not already done so, consult with a qualified arborist to assess the appropriateness of current plantings and for a long term plan for the care and management of the trees within the community, balancing aesthetic with protection of association assets. Tree roots can be damaging to walkways, irrigation, underground utilities and building structure. Reserve funding recommend at level indicated below for periodic, larger tree removal/trimming needs. Track actual expenses and add funding to future reserve study updates if needed.

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:



**Comp #: 200 Entry Signage - Replace**

**Quantity: (1) Concrete/stone**

Location: Entry area of property

Funded?: Yes.

History: none reported

Evaluation: Main sign appeared in fair, clean condition.

Reserve funding recommended for regular intervals of replacement to maintain a consistent, quality appearance.

Inspect periodically, repair, clean, and touch up for appearance as needed using general maintenance funds.

Useful Life:  
20 years

Remaining Life:  
7 years



Best Case: \$ 5,000

Worst Case: \$ 8,000

Lower Allowance

Higher Allowance

Cost Source: ARI Cost Database: Similar Project Cost History

**Comp #: 205 Mailboxes - Replace**

**Quantity: (8) clusters**

Location: Central location

Funded?: Yes.

History:

Evaluation: Mailboxes appeared in fair, weathered condition. Mailboxes are not protected from the rain by a structure.

In our experience, it is best to plan for total replacement at roughly the time frame below due to constant usage and wear over time.

As routine maintenance, inspect regularly, clean by wiping down for appearance, change lock cylinders, lubricate hinges, and repair as needed from operating budget.

Note: USPS has a limited budget for replacement and should not be relied upon for purposes of long term financial planning.

Useful Life:  
20 years

Remaining Life:  
7 years



Best Case: \$ 10,400

Worst Case: \$ 12,800

Lower Allowance

Higher Allowance

Cost Source: ARI Cost Database: Similar Project Cost History

## Other

**Comp #: 905 Electrical System - Maintain/Repair**

**Quantity: Main, branch systems**

Location: At two entry area locations

Funded?: No. Useful life not predictable

History:

Evaluation: The common area electrical system appears to service only irrigation and tree lighting. Majority of electrical systems are not visible for review. Analysis of the electrical system beyond a limited visual review is not within the scope of a reserve study. No large issues or problems/defects were reported.

Typically, if installed per architectural specifications and local building codes, there is no predictable time frame for large-scale repair/replacement expenses within the scope of our review. Some electrical system components are known to be life limited. Manufacturing defects become known from time to time and certain site conditions can contribute to premature deterioration of electrical components. Periodic inspections and maintenance by a master electrician may become necessary. Some associations employ infrared or other testing methodologies to identify potential trouble spots.

A good resource book available for purchase is NFPA 70B Recommended Practices for Electrical Equipment Maintenance.

[http://www.nfpa.org/catalog/product.asp?](http://www.nfpa.org/catalog/product.asp?title=&category%5Fname=&pid=70B13&target%5Fpid=70B13&src%5Fpid=&link%5Ftype=search&icid=&Page=1)

[title=&category%5Fname=&pid=70B13&target%5Fpid=70B13&src%5Fpid=&link%5Ftype=search&icid=&Page=1](http://www.nfpa.org/catalog/product.asp?title=&category%5Fname=&pid=70B13&target%5Fpid=70B13&src%5Fpid=&link%5Ftype=search&icid=&Page=1)

Useful Life:

Remaining Life:



Best Case:

Worst Case:

Cost Source:

**Comp #: 999 Reserve Study - Update**

**Quantity: Annual evaluation**

Location: Common elements

Funded?: No. Best funded as Operating expense

History:

Evaluation: Per Washington law (RCW), reserve studies are to be updated annually, with site inspections by an independent reserve study professional to occur no less than every three years to assess changes in condition (i.e., physical, economic, governmental, etc...) and the resulting effect on the community's long-term reserve plan. Most appropriately factored within operating budget, not as reserve component.

Thank you for choosing Association Reserves!

Useful Life:

Remaining Life:

Best Case:

Worst Case:

Cost Source:

